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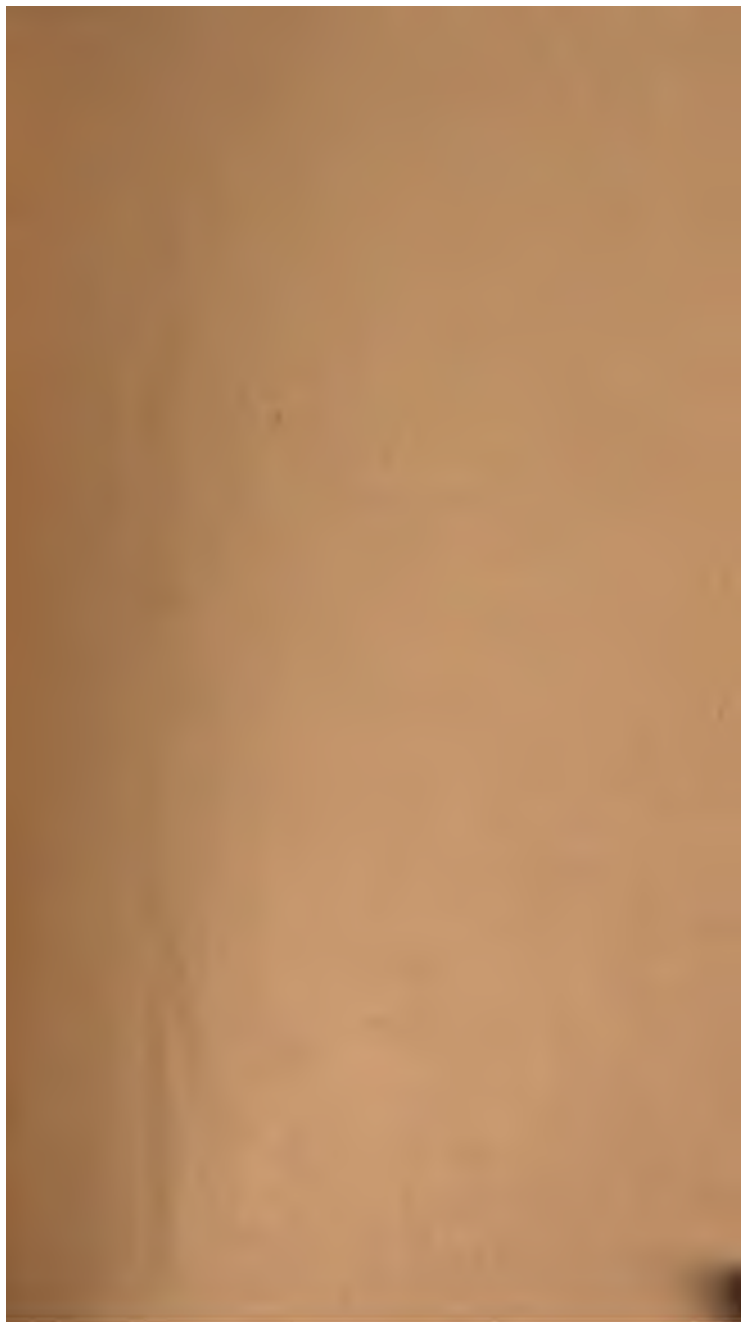


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07.

CATALOGUE
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PART I.
PLACENTADÆ AND ANOMIADÆ.

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CATALOGUE OF PLACENTADÆ & ANOMIADÆ.

FAMILY PLACENTADÆ.

Placentadæ, *Gray, Proc. Zool. Soc.* 1848, 201.

Placunidæ, *Gray, Syn. B. M.* 1842, 84, 92; *Hermann. Ind.* 279.

Placunoidæ, *Agassiz, Nomen. Zool.* 1847; *Hermann. Ind.* 279.

Placuna, *Lamk. Hist.* 2 ed. vii. 269.

Ostrea, part *Ferus. Tab. Syst.* 40, 1821.

Pectinidæ, part *Fleming, Brit. Anim.* 381, 1828.

Anomia, part *Hermannsen, Ind.* i. 61, 1846.

Lamarck describes three species of this genus, depending on the general outline and the waved or flat form of the shell, characters which are liable to considerable variations, as may be found on the mere inspection of any considerable number of specimens.

The hinge forms a more permanent character, and affords the means of dividing the species into two sections, and furnishes characters which separate them from each other. The right valve is the flattest, and bears the ridges of the hinge.

Chemnitz gives the best character for the species, and has observed the character furnished by the hinge, which has been overlooked by Lamarck, and by all recent authors.

Synopsis of the Genera.

a. *Hinge-ridges linear, diverging, only slightly raised.*

1. PLACUNA. Hinge-ridges of nearly equal length; muscular scar under centre of hinge.
2. PLACENTA. Hinge-ridges unequal, hinder much the longest; muscular scars rather in front of middle of hinge.

b. *Hinge-ridge transverse, elevated on a broad and high process.*

3. **HEMIPLACUNA.** A small pit in front of the base of the hinge-ridge. *Fossil.*

a. *Hinge-ridges linear, diverging, only slightly raised.*

1. PLACUNA.

Shell purplish, subopaque; hinge-ridges rapidly diverging from one another at about the angle of 45 degrees, of nearly equal length. Muscular scar under the centre of the hinge.

Placuna, *Solander*, 1785, fide *Chemn. Conch.* viii. 116; *Humph. Mus. Calonn.* 1797; *Lamk. Syst.* 135, 1801.

Placuna, sp. *Brug. E. M.* t. 174, 175, 1792; *Lamk. Hist.* 2 ed. vii. 270.

Ephippium, *Bolten, Mus.* 1798, 2 ed. 116, 1819; *Chemn. Conch.* vii. 116.

Placenta, β ., *Schumacher, N. Syst.* 113, 1817.

Placuna pectinoides, *Lamk. Ency. Meth.* t. 175, f. 1-4, is a species of *Plicatula*, *Desh. in Lamk. Hist.* 2 ed. vii. 271.

1. PLACUNA SELLA.

Shell flexuous, outline rather rhombic, being straight in front and rather notched behind, rather thick, purple; the ridges of the hinge not longer than they are separate from each other at the base.

Anomia Sella, *Gmelin, S. N.* 3345, 1788; *Dillw. R. S.* i. 297.

Placuna Sella, *Lamk. Hist.* vii. 270, No. 1.

Ephippium anglicanum maximum, *Chemn. C.* viii. t. 79, f. 714, cop. *E. M.* t. 174, f. 1.

Placenta Ephippium, *Retz.* 1788.

Placenta Sella, *Gray, Proc. Zool. Soc.* 1848, 113.

a, b. Adult. Purple, flexuous. China.

c. Nearly adult. Flexuous. China. Mus. Cracherode.

d. Young. Single valve; flat, purplish. India. Presented by Dr. Horsfield.

e. N. W. Australia. Presented by the Earl of Derby.

Var. β . Shell nearly flat, subquadrangular, notched before and behind.

2. PLACUNA PAPYRACEA.

Shell rather four-sided, nearly flat, thin, hyaline, white and purple varied.

Placuna papyracea, Lamk. *Hist.* vii. n. 2.

Ephippium parvum, Chemn. *Conch.* viii. t. 79, f. 719, cop. E. M. t. 174, f. 2.

Anomia Sella junior, Dillw. *R. S.* i. 297.

Placenta papyracea, Gray, *Proc. Zool. Soc.* 1848.

a, b, c, d. Shell thin, slightly flexuous, more or less purple varied. China.

e. Single valve; flat, thin, brown, transparent edges. India. Presented by Dr. Horsfield.

f. Flat; front, and especially the hinder edge notched, thin. Pale purple spotted. Australia. Presented by the Earl of Derby.

Perhaps only the young of *P. Sella*.

3. PLACUNA LINCOLNII.

Shell flat, rather solid, subopaque, outline suborbicular, rounder before and behind; ridges of the hinge elongate, longer than they are separate from each other at the base.

Placenta Lincolnii, Gray, *P. Z. S.* 1848, 113; *Moll.* t. 3.

a. Australia; Mr. W. Davison. Presented by Abraham Lincoln, Esq.

This species is named after the late Mr. Abraham Lincoln, who kindly presented the specimen here described, and who was well known for his fondness for conchology and the liberality with which he allowed persons to use his extensive collection.

2 PLACENTA.

Shell semitransparent, flat, outline suborbicular; ridges of the hinge very gradually diverging from each other, the hinder ridge much the longest. Muscular scar rather in front of the middle of the hinge.

Placenta, Retzius, *Dissert.* 15, 1788 (not Klein); Schum. *N. S.* 113, 1817; Gray, *P. Z. S.* 1848.

Placuna sp. Solander, 1785, fide Chemn. *Cab.* viii. 116; Brug. *E. M.* t. 174, 175, 1792; Lamk. *Hist.* 2 ed. vii. 270.

This shell forms the passage between the genus *Anomia*, or rather *Placunanomia*, and *Placuna*. It shows the gradual change which takes place between the three genera. In *Anomia* there are two muscles for the purpose of attaching itself to marine bodies, which form a plug which is free from the sinus of the shell. In *Placunanomia* there is only a single muscle to perform the same office, and in the more typical species of this genus the plug itself is fixed into the surface of the shell, forming, as it were, part of its substance. In *Hemiplacuna* and *Placuna* there is no muscle or plug for attachment, and the shells are free; but in *Hemiplacuna* there is a rudimentary development of the sinus through which the plug is usually emitted, and the ligament which connects the shell is of the same form as that found in the genera *Anomia* and *Placunanomia*.

The name for the genus is not consistent with the Linnæan canon; but used rather than burthen the genus with two names.

1. HEMIPLACUNA ROZIERI.

Placuna, sp., *Rozière, Description d'Egypte, Minéralogie*, t. 11, f. 6.
Hemiplacuna Rozieri, *G. B. Sow. MSS.*; *Gray, P. Z. S.* 1849, 124.

Anomia? or *Placuna?* *Desh. in Lamk. Hist.* vii. 270, note.

a. Fossil. Shore of the Red Sea; Vallée de l'Egarement.
 Purchased of Mr. Sowerby.

2. *ANOMIA*. Shell not eared; upper valve with three subcentral muscular scars; the anterior upper lobe of the notch separated from the cardinal edge; the plug entirely shelly, and quite free from the edge of the notch.
3. *LIMANOMIA*. Shell eared on each side of the umbo; sinus high up near umbo. Muscular scars ? *Fossil*.

1. PLACUNANOMIA.

Upper or dorsal valve with two subcentral muscular scars; the upper scar radiately veined. Byssal notch distinct, converted into a hole by the upper part of the anterior lobe of the notch being soldered to and forming part of the cardinal edge: the plug triangular, gradually enlarging in size; the apex and outer surface next to the body to which it is attached, calcareous, longitudinally striated; the inner surface covered with horny, longitudinal, parallel laminæ, and more or less agglutinated to the edge of the notch.

Anomia, β ., *Schumacher, Essai*, 1817.

Placunanomia, *Broderip, Proc. Zool. Soc.* 1832, 29; *Müller, Syn.* 176; *Desh. in Lamk. Hist.* vii. 269; *Gray, P. Z. Soc.* 1849, 119.

Pododesmus (*decipiens*), *Philippi, Wiegmann, Arch.* i. 385, 1837.

Anomia, pars, *Blainv. Man. Mol.*; *Montague*; *Forbes & Hanley*.

Ostrea, sp. *Da Costa*; *Montague*.

Placunanomia, *D'Orb. Amér. Mérid.*

Placunomia, *Swains. Malac.* 39, 1840.

Mr. Broderip, who established this genus, does not observe the character furnished by the muscular impressions, or the lobe of the notch: he merely says, "Impressio muscularis in utraque valvâ subcentralis. In valvâ superiore organi adhesionis impressio superaddita." And further, that "the organ of adhesion, which in its bony character (for it is more bone than shell) resembles that of *Anomia*, does not perforate the lower valve directly, but is inserted between the laminæ of the internal surface of the lower valve, above the muscular impression and below the hinge, and passes out into an external, irregular, somewhat longitudinal, superficial fissure or cicatrix, which is narrowest at the hinge margin, and which it entirely fills to a level with the surrounding surface."

This form is produced by the gradual increase of the size of the plug and the simultaneous increase of the size of the shell.

Some have considered the "plug" or "stopper" of *Anomia* to be a third valve, which is evidently a mistake. *Philippi (Moll. Sicil.*

i. 92) considers it as the ossification of the tendon of the adductor muscle. Mr. Broderip, in the passage quoted, regards it as a *bone*. In Dr. Dieffenbach's Travels Mr. Gray has remarked: "The plug is evidently only a modification of the kind of laminar beard formed by the end of the foot of the arcs (*arcæ*): for, like it, it is formed of numerous, parallel, erect, longitudinal horny laminæ, placed side by side, extending from the apex to the margin, and it is on these plates that the calcareous matter is deposited when the attachment assumes its shelly substance. The same structure is to be observed in the plug of the European *Anomia Ehippium (striata)*."—*Voy. New Zealand*, ii. 261.

Messrs. Forbes and Hauley compare it to the byssus of *Pecten*, and predict that when the very young *Anomiæ* have been observed, they will be found to be attached by threads, like that genus (*Brit. Moll.*). The plug of a very small specimen of the genus is laminar, like that of the adult shell.

M. Philippi, when describing *Pododesmus*, appears to have observed only the upper of the two muscular scars, for he gives as the generic character, "*Impressio muscularis unica, ovata*," and he only figures the larger upper one on the plate.

The upper scar, which is usually of a larger size, and has its surface covered with radiating veins, while the lower is generally punctated, appears to be the one which gives rise to the muscle that is attached to the inner surface of the plug.

The examination of the upper valve of a large series of specimens of *Placunanomia patelliformis* has shown that the position of the two muscles is liable to a slight variation; in by far the larger number of specimens the small lower muscle is quite close to and confluent with the scar of the upper larger muscle, but in a few specimens it is separated from the upper larger one by a small interval or space. Hence probably the three West Indian species of the genus may prove, when a larger series of specimens have been collected and compared, only varieties of the same species.

* *Shell plicately folded. Perforation of lower valve small, firmly embracing the plug. PLACUNANOMIA.*

1. *PLACUNANOMIA CUMINGII*.

Shell depressed; edge of the valves with three or four large angular folds.

Placunanomia Cumingii, *Broderip, Proc. Zool. Soc.* 1832, 29; *Sow. Genera*, t.; *Manual*, f. 189-191; *Gray, P. Z. Soc.* 1849, 121.

Hab. Central America; Gulf of Dulce, Province of Costa Rico. From Mr. Cuming's collection.

** *Shell ovate, radiately ribbed; edge not plicated. Perforation of lower valve moderate, firmly embracing and inclosing the plug. American. PODODESMUS.*

Pododesmus, Philippi, Wiegmann, Arch. i. 387, 1837; Gray, P. Z. S. 1849, 121.

2. PLACUNANOMIA RUDIS.

White; disk brown; laminæ smooth.

Upper valve with two rounded, separate scars of nearly equal size, the hinder one rather more transverse.

Placunanomia rudis, Broderip, Proc. Zool. Soc. 1834, 2; Gray, P. Z. S. 1849, 121.

Pododesmus decipiens, Philippi, Wiegmann, Arch. i. 1837, 387, t. 9, f. 1 (one scar left out).

Hab. East Indies? Broderip. Mus. Cuming. Havana; Philippi.

3. PLACUNANOMIA FOLIATA.

White; laminæ smooth, with very slight, distant, radiated ribs; disk purple brown.

Upper valve with two nearly united scars; the upper largest, and rather elongated; lower small, rounded.

Placunanomia foliata, Broderip, Proc. Zool. Soc. 1834, 2; Gray, P. Z. S. 1849, 121.

P. echinata, Broderip, Proc. Zool. Soc. 1834, 2.

"*P. pectinata, Brod.*" in Mus. Cuming.

a. Upper valve of young. St. Vincent. Jamaica. From the Rev. L. Guilding's collection.

b, c, d, e. Perfect. On Spondylus. West Indies. Mus. Broderip.

The specimen of *Placunanomia echinata*, from the island of Nevis, in Mr. Cuming's collection, appears to be only an imperfect specimen of this species. Mr. Broderip doubted if this might not be the case, when he described it.

4. PLACUNANOMIA ABNORMALIS.

White, radiated, ribbed. Upper valve with two scars, confluent on the lower hinder edge; the upper one rather the largest.

"*Placunanomia abnormalis, Sow.*" in Brit. Mus.; *Gray, P. Z. S. 1849, 121.*

a. West Indies.

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7. PLACUNANOMIA ALOPE.

Upper valve flat, smooth, radiately striated. Scars two, well separated, rounded, equal-sized.

Placunanomia alope, Gray, *P. Z. S.* 1849, 122.

a, b. California. Two upper valves. Presented by Lady Katherine Wigram.

†† *European.*

8. PLACUNANOMIA PATELLIFORMIS.

Shell suborbicular, convex or quite flat, radiately striated; inner disk greenish. Apex rather within the dorsal margin.

The upper muscular scar of the dorsal valve very large, oblong; the lower one small, roundish, on the lower part of the hinder margin of the upper one.

The peduncle of the cartilage with a triangular cavity in front, under the tip, and continued in an oblong, rib-like ridge towards the centre of the shell.

Anomia patelliformis, Linn. *S. N.* 1152; *Nov. Act. Upsal.* 1773, i. 42, t. 5, f. 6, 7; *Retzius*, *Nov. Gen. Test.* ii.; *Sars*, fide *Mus. Cuming*; *Loven*, *Moll. Scand.* 30; *Forbes & Hanley*, *Brit. Moll.* 334, t. 56; *Wood*, *Index Test.* t. 10, f. 10, not *Chemn.*

Squama Magna, *Chemn. Conch.* vii. 87, t. 77, f. 697.

Anomia Squama, *Gmelin*, *S. N.*; *Schumacher*, *Essai*.

Ostreum striatum, *Da Costa*, *Brit. Conch.* 162, t. 11, f. 4.

Anomia undulatum striata, &c., *Chemn. Conch.* viii. 8, t. 77, f. 699.

Anomia undulata, *Gmelin*, *Syst. Nat.* i. 3346; *Mont. Test. Brit.* 157, t. 4, f. 6; *Maton & Racket*, *Trans. Linn. Soc.* viii. 103; *Turton*, *Conch. Dict.* 4, *Bivalves*, 230, t. 18, f. 8, 9; *Dillw. R. S.* i. 289; *Wood*, *Index*, *Test.* t. 11, f. 9.

Ostrea striata, *Pulteney in Hist. Dorset*, 36; *Donovan*, *B. Shells*, ii. t. 45; *Mont. T. B.* 153, 580.

Anomia striata, *Loven*, *Index Moll. Scand.* 29; *Forbes & Hanley*, *Brit. Moll.* 336, t. 55, f. 1, 6, t. 53, f. 6.

Placunanomia patelliformis, Gray, *P. Z. S.* 1849, 122.

a, b, c, d. Adult and young. British shores. *Mus. Montague.*
e, f. Coast of Devonshire.

This species is easily known from the other European species of the family by being generally thicker and regularly radiately ribbed, and greenish; but the number and position of the muscular scars at once separate it from all the multiform varieties of that species. Some authors, overlooking the latter character, have been inclined to regard it as a mere variety of *Anomia ephippium*.

††† *Australian.*9. *PLACUNANOMIA ZEALANDICA.*

Suborbicular, white, smooth; upper valve with distant, radiating grooves; internally dark green.

Upper valve with two confluent scars; upper oblong, longitudinal, lower rather small and more transverse.

Anomia Zealandica, Gray, in *Dieffenbach's New Zealand*, ii. 261, 1843.

Placunanomia Zealandica, Gray, *P. Z. S.* 1849, 123.

- a. Adult specimen. New Zealand: on the inside of mussel shells. Presented by Dr. Stanger.

10. *PLACUNANOMIA IONE.*

Shell white, laminar; edge of the laminæ with small, slender, elongated processes; internally green.

Lower muscular scars small, round, on the lower hinder edge of the larger one; sinus or perforations large.

Placunanomia ione, Gray, *P. Z. S.* 1849, 123.

- a. A single dorsal valve. On rocks, Australian Seas. Van Diemen's Land. Presented by Dr. A. Sinclair.

11. *PLACUNANOMIA COLON.*

Shell (upper valve) flat, with rather irregular, flat, radiating ribs; white, lower spotted; upper valve with two separate scars; the upper one oblong, longitudinal, the lower one much smaller, circular.

Placunanomia colon, Gray, *P. Z. S.* 1849, 123.

Hab. — ?

Mr. Cuming's collection (no. 10). Mr. Humphrey's collection a single upper valve of a rather young shell.

2. *ANOMIA.*

Upper valves with three subcentral muscular scars; byssal notch distinct; the upper part of the anterior lobe of the notch separate from and often partially overlapping the front of the cardinal edge; the plug thick, elongate, entirely shelly, and quite free from the edge of the notch.

Anomia, Müller, 1776; Retzius, 1788; Lamk. 1801; Megerle, 1811; Gray, P. Z. S. 1849, 114.

Anomia, pars, Linn. S. N.

Anomia, A. Schumacher, Essai, 1817.

Echion and Echinonoderma, sp. Poli, Sicil. Test. i. 34, 1791, ii. 255, 1795.

Fenestrella, Bolten, Mus. 1798, 2 ed. 134, 1819.

Lampades, pars, Gevers, 1787.

"Ænigma, Koch," according to the cabinet of Mr. Cuming.

It is by no means certain that all the species here indicated are distinct, or are to be distinguished by the characters assigned to them, unassisted by the country which they inhabit: but they seem distinct, and it appears to be desirable that they should be distinguished until we have the means of more completely investigating them, and of examining and comparing the animals which form them.

* The upper scar in dorsal valve large; two lower scars smaller, and nearly under the upper one. Shell suborbicular. ANOMIA.

Anomia, Gray, Proc. Zool. Soc. 1849, 114.

† European.

1. ANOMIA EPHIPPIMUM.

Shell white, yellow, rosy or red brown; upper valve radiated; internally pearly. The upper scar large, oblong, the two others rather smaller, subequal, one above the other; the lowest of the two rather more behind. Plug large, broad, short; the sinus in lower valve large.

Anomia Ehippium, Linn. S. N. 1150; Chemn. viii. 82, t. 76, f. 692, 693; Mont. T. B. 155; Lamk. Syst. 138; Dillw. R. S. i. 286; Poli, Test. ii. 186, t. 20, f. 9, 10; Lamk. Hist. vi. 226, 2 ed. vii. 273, n. 1; Gray, P. Z. S. 1849, 116.

Anomia Tunica Cepa, Dacosta, B. Conch. 165, t. 11, f. 3.

Anomia cepa, Linn. S. N. 1151; Chemn. viii. 85, t. 76, f. 694, 695; Dillw. R. S. i. 287; Poli, Test. ii. 182, t. 30, f. 1-8; Lamk. H. v. 227, 2 ed. vii. 274, n. 3.

Anomia violacea, Brug. Enc. Meth. 71.

Anomia plicata, Brocch. Conch. 665, t. 16, f. 9.

Anomia scabrella, Philippi, Sicil. i. 92, ii. 65, t. 18, f. 1.

Anomia polymorpha, Philippi, Sicil. i. 92, ii. 65.

Anomia costata, Brocchi, 463, t. 10, f. 9.

- Anomia sulcata*, *Poli, Test. Sicil.* t. 30, f. 12; *Brocch.* t. 10, f. 2.
Anomia radiata, *Brocchi*, t. 10, f. 10.
Anomia pectiniformis, *Poli, Sicil.* t. 30, f. 13, on a *Pecten*; *Philippi, Sicil.* ii. 63, t. 18, f. 3.
Anomia margaritacea, *Poli, Sicil.* t. 30, f. 11; *Philippi, Sicil.* ii. 63.
Anomia electrica, *Linn. S. N.* 1151; *Chemn. Conch.* viii. t. 76, f. 691; *Lamk. Hist.* vi. 227, 2 ed. vii. 274, n. 4.
Anomia squamula, *Linn. S. N.* 1151; *Chemn. Conch.* viii. 86, t. 76, f. 696; *Lamk. Hist.* vi. 228, 2 ed. vii. 275, n. 8.
Anomia punctata, *Chemn. Conch.* viii. 88, t. 77, f. 698; *Dillw. R. S.* ii. 288.
Anomia aculeata, *Müller, Z. D. Prod.* 249; *Chemn.* viii. 92, t. 77, f. 702; *Mont. T. B.* 157, t. 4, f. 5; *Dillw. R. S.* i. 288.
Anomia scabra, *Solander MSS.* fide *Dillwyn*.
Anomia lens, *Lamk. Hist.* vi. 228, 2 ed. vii. 276, n. 9.
? *Anomia aspera*, *Philippi, Sicil.* ii. 65, t. 18, f. 4.
Anomia elegans, *Philippi, Sicil.* ii. 65, t. 18, f. 2.
Anomia patelliformis, *Chemn. C.* viii. 89, t. 77, f. 700; *Dillw. R. S.* i. 290.
Anomia striatula, *Bruguère, Enc. Meth.* 74.
? *Anomia bifida*, *Chemn. Conch.* viii. 79, t. 76, f. 689, 690; *Dillw. R. S.* 290.
Anomia cylindrica, *Gmelin, S. N.* 3349; *Dillw. R. S.* i. 291.
Anomia cymbiformis, *Maton & Racket, Linn. Trans.* viii. 104, t. 3 f. 6; *Mont. Supp.* 64.
Anomia coronata, *Bean, Mag. N. Hist.*
Anomia patellaris, *Lamk. Hist.* 2 ed. vii. 273, n. 2; *Deles. Recueil*, t. 17, f. 3.
Anomia pyriformis, *Lamk. Hist.* vi. 227, 2 ed. vii. 175, n. 5; *Deles. Rec.* t. 17, f. 4.
Anomia fornicata, *Lamk. Hist.* vi. 228, 2 ed. vii. 275, n. 6 = *Enc. M.* t. 170, f. 45.
? *Anomia membranacea*, *Lamk. Hist.* vi. 228, 2 ed. vii. 275, n. 7 = *Enc. Meth.* t. 170, f. 1-3?
? *Anomia cucullata*, *Bruguère, E. M.* 70.
a, b, c, d. Adult. Europe.
e. Adult. From back of *Pecten*. Lower valve radiated. Europe.
f, g, h. Small, very convex. On *Cerithium vulgatum*. Malta. Presented by Miss Emilie Attersoll.
i. Small, very convex, obliquely costated from a costated shell. Malta. Presented by Miss E. Attersoll.
j. Shell thick, radiately striated. Coast of Africa. Presented by Capt. Owen, R.N.

†† *Asiatic.*2. *ANOMIA AMABÆUS.*

Flat, white, smooth; internally pearly, with a very thin disk. Upper scar moderate; lower scars two, rather large (nearly as large as the upper one), confluent into a broad, oblong scar.

Anomia amabæus, *Gray*, *P. Z. S.* 1849, 113.

Hab. Philippines, Island Buraas (Jackass Island); on stones, sand, ten fathoms. Mr. Cuming's collection.

3. *ANOMIA CYTÆUM.*

Shell suborbicular, smooth; internally reddish. Upper muscular scars very large, subcordate; lower two, suborbicular, smaller, nearly equal-sized; the upper in the notch of the upper one; the lower hinder close to lower hinder edge of the upper one; sinus in lower valve large.

Anomia cytæum, *Gray*, *P. Z. S.* 1849, 115.

Hab. China, River Zangtze Keang; *Fortune*. Mr. Cuming's collection. Two specimens.

4. *ANOMIA DRYAS.*

Suborbicular, flat, white; upper valve internally and radiately lined. Upper scar large, oblong; lower scars two, small, circular, nearly confluent, placed side by side nearly on the same line.

Anomia Dryas, *Gray*, *P. Z. S.* 1849, 115.

Hab. Singapore. On dead shells, ten fathoms, in coarse sand and gravel. One small specimen. Mr. Cuming's collection.

5. *ANOMIA ACHÆUS.*

Shell purplish, smooth; umbo rather acute; upper valve generally convex; inside purplish white. Upper muscular scar large, lower edge slightly arched; lower scars two, small, nearly equal-sized; the hinder rather lower than the other.

Anomia achæus, *Gray*, *P. Z. S.* 1849, 115.

a, b, c, d, e, f. Dorsal valves only. Indian Ocean, Kurachee, mouth of the Indus. Presented by Major Baker.

Major Baker sent to the Museum a very large series of the dorsal valves of this species, collected at Kurachee. They are ex-

tremely variable in form, surface, colour and thickness, and they also offer considerable variety in the disposition of the muscular scar. In all the upper scar is largest, but variable in shape from round to broad cordate. In most the two lower scars are close together, but separate, and nearly on the same line. In others the lower scar is rather lower than the middle one, and in a few (four) specimens, which are mostly produced posteriorly, the lower scar is much lower; that is to say, in some the upper edge is parallel with the lower edge of the middle one. In one specimen the two lower scars are on the same line, and are confluent together, forming a scar about the same size as the upper scar, yet showing that the lower scar is formed by two muscles; so that this valve cannot be confounded with a *Placunanomia*.

The examination of this series of specimens from the same locality I think shows, that though the comparative size and disposition of the scars may furnish good characters for the distinction of the species, yet they are not to be relied on.

6. ANOMIA BELESIS.

White or red; the upper part of the centre of the dorsal valve white, externally radiately striated; apex acute, at some distance from the dorsal edge. Upper valve with three separate scars, the upper one very large, oblong, and rather transverse; two lower ones very small, nearly equal-sized, and nearly on the same line.

Anomia belesis, Gray, *P. Z. S.* 1849, 116, *Moll.* t. 4, f. 3, 4.

a. White, rather thick. Indian Ocean. Presented by General Hardwicke.

b, c. Red. Indian Ocean. Presented by General Hardwicke. Specimen figured *P. Z. S.* 1849, t. 4, f. 3, 4.

††† *American.*

7. ANOMIA ACOTES.

Yellowish white, suborbicular, flat, smooth; disk pearly. Upper scar moderate, subcircular; lower scars smaller, distant, circular, subequal, the lower one nearly on a line with the lower edge of the middle one.

Anomia acotes, Gray, *P. Z. S.* 1849, 116.

Hab. Jamaica. One small specimen in Mr. Cuming's collection.

8. ANOMIA FIDENAS.

White, pearly, thin, flat, smooth externally, pearly within, with a thick white disk. Upper scar large, elongate, arched below; lower scars two, small, circular, far apart, the lower one considerably below the other.

Anomia fidenas, Gray, *P. Z. S.* 1849, 117.

Hab. America, west coast. Panama; on *Pinna* at low water. Mus. Cuming, no. 2; three specimens.

9. ANOMIA ADAMAS.

Red, thick, with numerous, indistinct, radiating ribs, most distinct on the edge of the lamina; internally red, pearly, with a small white disk. Upper muscular scar oblong, arched below; lower scars subequal, separate, but close together, and nearly on the same line.

Anomia adamas, Gray, *P. Z. S.* 1849, 117.

Hab. Galapagos; Lord Hood's Island, attached to *Avicula margaritifera* at nine fathoms. Mus. Cuming, no. 5; three specimens.

10. ANOMIA PACILUS.

Red, with distinct radiating ribs; internally reddish pearly, with a thick white disk. Upper muscular scar oblong, broad, lower edge arched; lower scars two, rather smaller, nearly similar in size, rather close together, but separate, the hinder one rather lower than the other.

Anomia pacilus, Gray, *P. Z. S.* 1849, 117.

Hab. Peru; Tumbes. Dredged from five fathoms in soft mud. Mus. Cuming, no. 9.

11. ANOMIA LARBAS.

Shell white, smooth, lower valve pale green. Upper muscular scar large; lower scars two, nearly as large as, and close to, the upper one, nearly equal, and nearly in a line.

Anomia larbas, Gray, *P. Z. S.* 1849, 117.

Hab. Coast of Peru, Payta. Mus. Cuming.

12. ANOMIA ALECTUS.

Irregular, upper valves convex, reddish, internally pearly; lower valve green, internally green. Upper scar large, oblong; lower scars two, large, rather smaller than the upper one, close together, but not confluent; the lowest one the largest.

Anomia alectus, Gray, *P. Z. S.* 1849, 117.

- a. Dorsal valve. Peru, Bay of Guayaquil. Presented by R. B. Hinds, Esq.
- b. Yellow, perfect. N. coast of America. Presented by Capt. Sir Edward Belcher, C.B., R.N.

13. ANOMIA HAMILLUS.

Reddish, thin, sinuous. Dorsal valve with a triangular, white, porcellaneous disk. Upper scar large, roundish; lower scars two, separate, close together, nearly equal-sized, small, and nearly on the same line.

Anomia hamillus, Gray, *P. Z. S.* 1849, 117.

Hab. West Columbia, Bay of Canes. Mus. Cuming, no. 6.

14. ANOMIA LAMPE.

Shell yellowish green, radiately costated; internally green. Upper muscular scar large, squareish; lower two rather smaller, subequal, near together and to the upper scar, and nearly on the same line; sinus in lower valve very large.

Anomia lampe, Gray, *P. Z. S.* 1849, 117.

- a, b, c. Single valves, yellow and red. California. Presented by Lady Katherine Wigram.

+++ Fossil.

15. ANOMIA TENUISTRIATA.

Shell very variable in shape, regularly radiately striated; sinus of lower valve very large, ovate. Dorsal valve with three nearly equal muscular scars very close together; the two lower small, placed close together side by side, just on the lower margin of the upper scar, the hinder one being rather behind the hinder edge of the upper one.

Ostrea anomialis, Lamk. *Hist. An. sans Vert.* vi. 220.

Anomia Ephippium, DeFrance, *Dict. Sci. Nat.* ii.

Anomia striatula, *Desh. Coq. Foss. Paris*, t. 65, f. 7, 11.

Anomia tenuistriata, *Desh. Coq. Foss. Paris*, i. 377, in *Lamk. Hist.* vii.; *Gray, P. Z. S.* 1849, 118.

a, b, c, d, e, &c. Fossil, Grignon. From M. Deshayes collection.

The very characteristic scars of the dorsal valve are well shown in M. Deshayes' plate above referred to, but not mentioned in the description.

** *Upper scar of dorsal valves large; two lower scars smaller, far behind the upper one. Shell oblong, transverse. ÆNIGMA. Koch.*
Ænigma, Koch, MSS.; Gray, P. Z. S. 1849, 118.

16. ANOMIA ÆNIGMATICA.

Shell elongate, transverse, oblong, purple or yellowish, with a purple disk; apex acute, considerably within the dorsal edge.

The upper scar large, suborbicular, subcentral; lower scars two, much more posterior, small, equal-sized, and nearly confluent.

Tellina ænigmatica, *Chemn. Conch.* xi. t. 199, f. 1949, 1950.

Anomia rosea, *Gray, Ann. Philos.* 1825, 5.

Anomia ænigmatica, *Alton in Wiegmann, Arch.* 1837, *Verz.* 21;
Reeve, Nomen. Conch.; Gray, P. Z. S. 1849, 118.

Hab. Indian Ocean.

Var. 1. Elongate, purplish brown, smooth, flat. *Chemn. l. c.* f. 1949, 1950.

Hab. Indian Ocean, on the surface of flat wooden piles, &c.

a, b. Philippines. From Mr. Cuming's collection.

Var. 2. Like former, but more elongated, and the sides folded together, from being on a concave surface.

Anomia naviformis, *Jonas; fide Mus. Cuming.*

Ænigma, sp. *Koch; fide Mus. Cuming.*

c, d. Bengal, on wood.

Var. 3. Flat, smooth; like Var. 1, but yellow, with a dark purple brown, transverse ray.

e, f. Philippines. From Mr. Cuming's collection.

Var. 4. Flat, purple; like Var. 1, but often more ovate, and with a few radiating ribs, ending in projections, making the edge sinuous.

g. Singapore, on piles of wood forming the wharves. From Mr. Argent's collection.

*** *Two upper scars small ; lower one large. Shell suborbicular ; sinus small. PATRO.*

Patro, *Gray, Proc. Zool. Soc.* 1849, 118.

17. ANOMIA ELYROS.

White, lamellar, closely radiately striated. The disk of the upper valve with three separate subcircular scars; the two upper scars small, subequal, one under the other; the lower one large, nearly circular, subcentral. Notch in lower valve very small. Plug small, elongate, subcylindrical; the notch small, with reflexed edges.

Anomia elyros, Gray, P. Z. S. 1849, 118; *Moll. t.* 4, f. 1, 2.

a, b, c, d. Adult, thick; disk white, thick. Port Essington. Presented by the Earl of Derby.

e, f. Adult. Port Essington. Presented by J. B. Jukes, Esq.

g. Adult. Depuch Island. Presented by Capt. Wickham.

h. Adult, thin; disk thin. Port Essington. Presented by Capt. Sir Everard Home, Bart., R.N.

The small size of the upper scars in this species probably depends on the small size and elongated form of the plug. The other species, which have the upper scar the largest, have at the same time a larger notch and a broader plug.

3. LIMANOMIA.

Shell adherent, longitudinal, subequivalve, inequilateral; *umbo* curved to the right, regularly curved on each side, cardinal edge transverse, oblique, inclined to the right; valves thin near umbo, slightly radiately ribbed; lower valve with a subtriangular notch near the umbo, under the ear; cartilage ridge ? muscular scars ? *Plug* triangular, calcareous, with a narrow, scalariform impression.

Limanomia, Bouchard, Chantereaux MSS. (in letter) 1850.

This fossil genus, which has the external form of a *Lima* and the plug and habit of *Anomia*, has hitherto only been found in the Devonian limestone.

* *Shells adherent, sometimes aggregate.*

1. LIMANOMIA GRAYIANA.

Shell ovate, longitudinal, radiated and dichotomously ribbed; ribs of upper valve strong, under far apart, of lower valve flat, broad and near together.

Limanomia Grayiana, *Bouchard MSS. & figure.*

Fossil. Devonian limestone, Boulogne.

See also *Limanomia multicosta*, and *L. Lineolaria*.

** *Shell isolated, attached to Terebratula or Spirifer.*

2. LIMANOMIA GIBBA.

Shell orbicular, gibbous; upper valve very concave, cancellated, concentrically ribbed, and finely undulately radiated; lower valve smooth, concave in the centre.

Limanomia gibba, *Bouchard MSS.*

Fossil. Devonian limestone, Boulogne.



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